

PRELIMINARY AMENDMENT

U.S. Appl. No. -- National Stage Entry of PCT/JP99/06243

wherein one of R¹ and R² is -NH₂ and another one is -NH₂, -OH or -SH, R³ is -SO₂-, -O-, -CO-, an alkylene group having 1 to 6 carbon atoms, a perfluoroalkylene group having 1 to 10 carbon atoms or a single bond.

2 8. (Amended) A process for preparing the fluorine-containing elastomer of Claim 2, which comprises polymerizing a fluorine-containing monomer by using, as one of a polymerization initiator and/or monomer, a compound giving carboxyl group to a trunk chain and/or branched chain and treating a polymerization product with an acid.

12. (Amended) The fluorine-containing elastomer of Claim 10, which satisfies the following equation (1):

$$(S_{co}/S_{cf}) \times (D/D_p) \times (F/F_p) \geq 0.01 \quad (1)$$

wherein S_{co}, S_{cf}, D, D_p, F and F_p represent the following respective values.

S_{co}: Total area of absorbances at the absorptions derived from carbonyl group of associated and non-associated carboxyl groups having the absorption peaks at from 1,680 to 1,830 cm⁻¹ when measurement is made with FT-IR with respect to the elastomer to be measured.

S_{cf}: Area of absorbance at absorption derived from a harmonic sound of C-F bond having an absorption peak at from 2,220 to 2,840 cm⁻¹ when measurement is made with FT-IR with respect to the elastomer to be measured. In case where nitrile group is present, S_{cf} is a value obtained by subtracting an area of absorbance at absorption

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derived from nitrile group having an absorption peak at from 2,220 to 2,300 cm^{-1} from a total area of absorbances at whole absorption having a peak at from 2,220 to 2,840 cm^{-1} .

D: Specific gravity of the aimed elastomer at 20°C.

Dp: Specific gravity (measured value: 2.03) at 20°C of a standard perfluoro elastomer (copolymer of tetrafluoroethylene/perfluoro(methyl vinyl ether) in a mole ratio of 58/42).

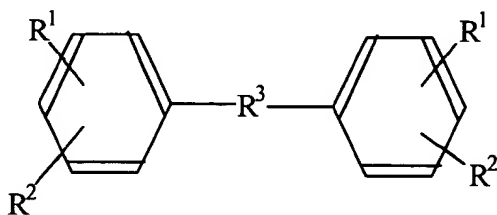
F: Fluorine content (% by weight) of the elastomer to be measured obtained by elemental analysis.

Fp: Fluorine content (measured value: 71.6 % by weight) of said standard perfluoro elastomer obtained by elemental analysis.

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13. (Amended) A crosslinked fluorine-containing rubber molded article obtained by crosslinking the fluorine-containing rubber composition for crosslinking of Claim 2.

Please add the following new claims:

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14. (New) The fluorine-containing rubber composition for crosslinking which comprises 100 parts of the fluorine-containing elastomer of Claim 3 and 0.5 to 5.0 parts by weight of a crosslinking agent represented by the formula (III):



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wherein one of R¹ and R² is -NH₂ and another one is -NH₂, -OH or -SH, R³ is -SO₂-, -O-, -CO-, an alkylene group having 1 to 6 carbon atoms, a perfluoroalkylene group having 1 to 10 carbon atoms or a single bond.

15. (New) The fluorine-containing rubber composition for crosslinking of Claim 14, wherein a bisaminophenyl crosslinking agent of the formula (III), in which each of R¹ and R² is -NH₂, is used.

16. (New) A process for preparing the fluorine-containing elastomer of Claim 3, which comprises polymerizing a fluorine-containing monomer by using, as one of a polymerization initiator and/or monomer, a compound giving carboxyl group to a trunk chain and/or branched chain and treating a polymerization product with an acid.

17. (New) The preparation process of Claim 16, wherein the polymerization of fluorine-containing monomer is carried out by emulsion polymerization method.

18. (New) The fluorine-containing elastomer of Claim 11, which satisfies the following equation (1):

$$(S_{co}/S_{cf}) \times (D/D_p) \times (F/F_p) \geq 0.01 \quad (1)$$

wherein S_{co}, S_{cf}, D, D_p, F and F_p represent the following respective values.

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Subtle conf. Sco: Total area of absorbances at the absorptions derived from carbonyl group of associated and non-associated carboxyl groups having the absorption peaks at from 1,680 to 1,830 cm^{-1} when measurement is made with FT-IR with respect to the elastomer to be measured.

A # 003150-03301 103260-6057330 Scf: Area of absorbance at absorption derived from a harmonic sound of C-F bond having an absorption peak at from 2,220 to 2,840 cm^{-1} when measurement is made with FT-IR with respect to the elastomer to be measured. In case where nitrile group is present, Scf is a value obtained by subtracting an area of absorbance at absorption derived from nitrile group having an absorption peak at from 2,220 to 2,300 cm^{-1} from a total area of absorbances at whole absorption having a peak at from 2,220 to 2,840 cm^{-1} .

D: Specific gravity of the aimed elastomer at 20°C.

Dp: Specific gravity (measured value: 2.03) at 20°C of a standard perfluoro elastomer (copolymer of tetrafluoroethylene/perfluoro(methyl vinyl ether) in a mole ratio of 58/42).

F: Fluorine content (% by weight) of the elastomer to be measured obtained by elemental analysis.

Fp: Fluorine content (measured value: 71.6 % by weight) of said standard perfluoro elastomer obtained by elemental analysis.

19. (New) A crosslinked fluorine-containing rubber molded article obtained by crosslinking the fluorine-containing rubber composition for crosslinking of Claim 3.

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20. (New) A crosslinked fluorine-containing rubber molded article obtained
by crosslinking the fluorine-containing rubber composition for crosslinking of Claim 5.

Ex¹⁰A₄

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